

PATENT ABSTRACTS OF JAPAN

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LTD

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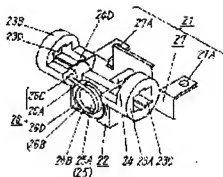
(72)Inventor : SAWADA MASAKI
YAMAMOTO TAMOTSU
MINAMI KATSUICHI(54) CONNECTING DEVICE AND FOLDING ELECTRONIC APPARATUS USING THE
SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a connecting device for connecting two related electronic apparatus freely to be folded and turned, and to provide a folding electronic apparatus with the structure that a first electronic apparatus stably stops at the terminal position of the turning angle without stopping an intermediate position when turning the first electronic apparatus for turnover.

SOLUTION: This connecting device is formed of a turning shaft mechanism installed to have a turning axis vertical to the end surface of the first electronic apparatus 29 to support the first electronic apparatus 29 freely to turn at the predetermined angle range and provided with a spring member 26 with the structure that the deflection quantity thereof in the direction at a right angle against the turning axis is large at the intermediate position of the turning angle range and small at both end positions, and an opening and closing shaft mechanism installed between the turning shaft mechanism and the peripheral part of the second electronic apparatus to have a turning axis thereof vertical to the turning axis of the first electronic apparatus.

21 通孔部 26D 円筒状部
22 筒状部 27 可動軸
23A, 23B, 24 フランジ部 25 軸受け部
26, 27 弾性部 28A, 28B アーム
29 円筒部 29A, 29B 先端部
29C スリット部 29D 取付金具
29E 孔



LEGAL STATUS

[Date of request for examination] 26.07.2004

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[Date of final disposal for application]

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[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

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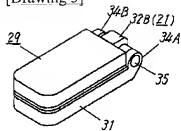
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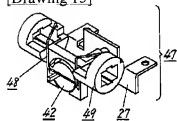
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DRAWINGS

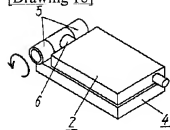
[Drawing 5]



[Drawing 15]

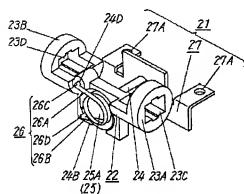


[Drawing 18]

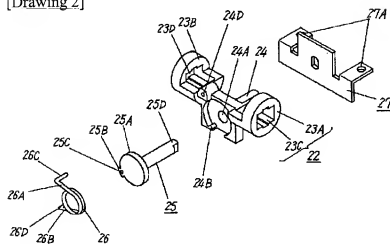


[Drawing 1]

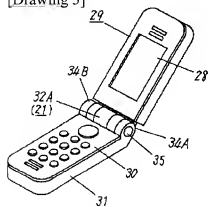
21	連結装置	24D	円形小孔
22	回転体	25	円形軸
23A, 23B, 23C	フランジ部	26	ねじりコイルばね
23C, 23D	角孔	26A, 26B	アーム
24	円筒部	26C, 26D	先端部
24B	ストッパ	27	取付金具
		27A	穴



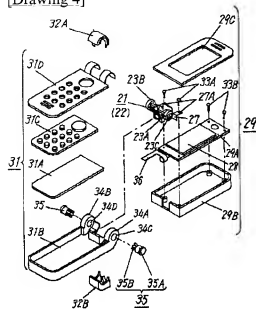
[Drawing 2]



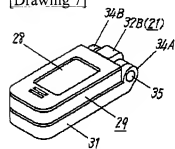
[Drawing 3]



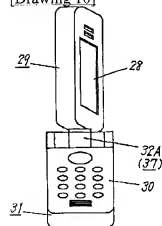
[Drawing 4]



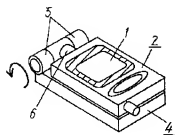
[Drawing 7]



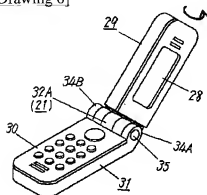
[Drawing 10]



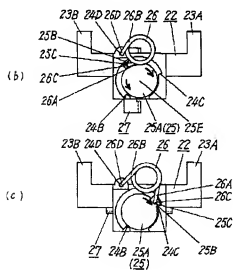
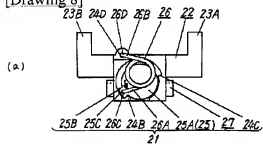
[Drawing 19]



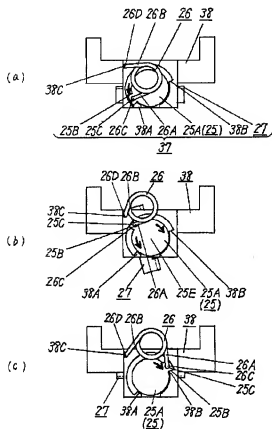
[Drawing 6]



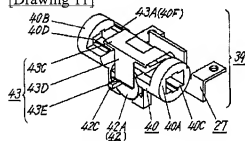
[Drawing 8]



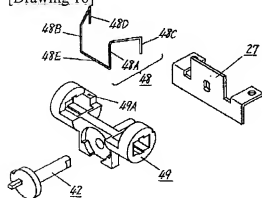
[Drawing 9]



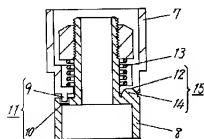
[Drawing 11]



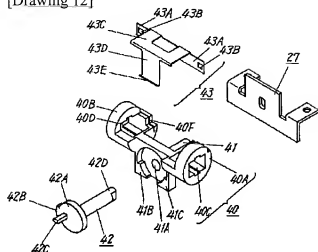
[Drawing 16]



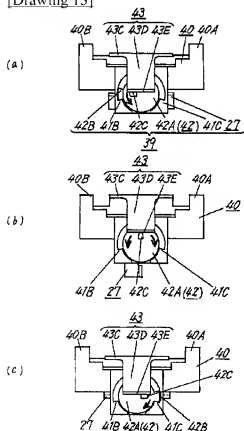
[Drawing 20]



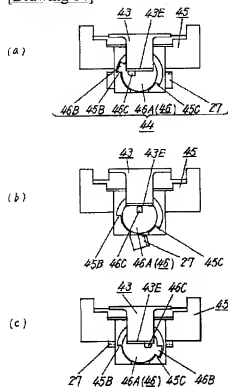
[Drawing 12]



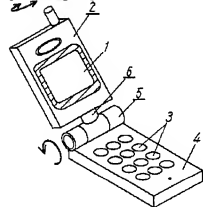
[Drawing 13]



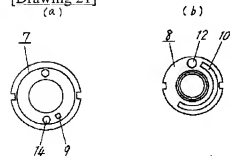
[Drawing 14]



[Drawing 17]



[Drawing 21]



[Translation done.]

[0064] If it is made to circle in the first electronic equipment 29 from this condition by people's hand against the energization force of the spring object 43 to the second electronic equipment 31 ****(ed) to projection 42C of the flange 42A end face of the circular shaft 42 connected with the first electronic equipment 29. Tip bay 43E of the spring object 43 carries out friction sliding smoothly along the side face of the circular side of projection 42C. Till the neutral point which tip bay 43E of the spring object 43 which is the about 90-degree revolution angular position shown in drawing 13 (b) is most greatly stirred, and **** into the top-most-vertices part of the circular side face of projection 42C If the energization force of the spring object 43 which works in the direction shown in the arrow head on the left-hand side of this drawing is resisted, it circles and it passes over this point The energization force of the spring object 43 commits shortly the direction 42 shown in the arrow head on the right-hand side of this drawing, i.e., a circular shaft, and fixing metal 27 in the direction in which it is made to circle further. Lobe 42B of the flange 42A periphery of the circular shaft 42 makes it circle to the reversal location which is the 180-degree revolution angular position to which not making it circle by people's hand, either contacts stopper 41C of another side of the rotation object 40 and which is shown in drawing 13 (c).

[0065] And fixing metal 27 and the rotation object 40, i.e., the first electronic equipment 29 and the second electronic equipment 31 which were connected with each, are stabilized in the state of reversal in the location which is shown in drawing 13 (c) by the arrow head and where lobe 42B of a flange 42A periphery was forced on stopper 41C of another side of the rotation object 40, and it stops.